

Methodology in Morbidity Surveys

In 1950 the California Department of Public Health activated a research program in morbidity measurement. Its objective was to develop a feasible mechanism through which morbidity data applicable to general populations could be gathered on a current basis.

As part of this research, the department undertook a methodological survey in San Jose, Calif. This survey investigated: (a) alternative methods of obtaining morbidity data in sample surveys of the population, and (b) uses of morbidity data from existing medical records. Collection of medical record data for San Jose residents commenced in 1951, and an investigation of household survey methods took place in early 1952.

Results from the San Jose Survey aided in the design of a statewide survey, conducted in 1954 and 1955. In addition to providing a demonstration of the household sample survey method as an operating program, this California Health Survey provided further information on some of the methodological issues explored in the San Jose Survey.

Some of the major methodological findings from these two surveys are summarized below.

Household Survey Methods

Question yield at interview. General questions about illness and chronic conditions do

not produce complete morbidity reporting. Reporting is increased by questions about action taken as a result of illness and chronic conditions, by checklists of symptoms of illness and chronic conditions, and by checklists of names of chronic conditions.

Length of recall period. The length of time for which interview respondents can recall illness satisfactorily is important because the more limited the time period, the larger the sample must be to achieve a given sampling error. The relative volume of illness reported at interview declines as the length of the recall period increases. Forgetting is most pronounced for illness causing neither activity restriction nor medical attendance. Even if memory were infallible, an event considered as illness in the immediate past may no longer be perceived as illness when viewed over a longer recall period.

Interviewing and diary-keeping. Forgetting and other recall problems place definite restrictions on the amount of illness data that can be collected in an interview survey. A diary maintained daily was investigated as a possible means of overcoming recall problems. Interviewers explained to household respondents procedures for diary maintenance. Health diaries maintained for a month produced higher rates of minor acute illness than did interviews covering a calendar-month recall period. The

Public Health Monograph No. 70

Methodology in Two California Health Surveys. San Jose (1952) and Statewide (1954-55).

By H. William Mooney, Ph.D. Public Health Monograph No. 70 (PHS Pub. No. 942), 143 pages. U.S. Government Printing Office, Washington, D.C., 1963, price \$1.

The accompanying summary covers the principal contents of Public Health Monograph No. 70, published concurrently with this issue of *Public Health Reports*. The author is a survey research specialist

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For readers wishing the data in full, copies are on sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. Official agencies and others directly concerned may obtain single sample copies without charge from the Public Inquiries Branch, Office of Information and Publications, Public Health Services. Copies will be found also in the libraries of professional schools and the major universities and in selected public libraries.

cost of administering the diary-keeping program exceeded that of the interviewing program, however, and diaries were not always maintained daily.

Diary-keeping as an aid to interviewing, a relatively inexpensive modification of the diary method, also was investigated. A "health calendar" was mailed to sample households in advance of a specified 4-week recall period to be covered by subsequent interview. The health calendar, which was to be maintained daily, served as a memory aid at interview. A substantial increase in illness reporting at interview resulted, especially reporting of acute illness. Only a minority of households made daily entries on the calendar; however, even those households receiving but not maintaining calendars reported more illnesses at interview than households not sent calendars. Apparently, receipt of a request to maintain a health record heightened awareness and resulted in improved recall of illness for the period covered by interview.

Continued observation of panels. When panels are interviewed or maintain diaries repeatedly, it is important to know whether repeated observation has itself influenced the reporting of illness. Reporting of illness was lower on repeat as compared with initial interviews, and on repeat as compared with initial diaries. Illness reporting on initial interviews reflected a willingness to cooperate, characterized by high over-reporting and low under-reporting of illness; illness reporting on repeat interviews was characterized by less over-reporting and more under-reporting, indicating a lower degree of cooperation. The definition of illness applied by keepers of initial diaries appeared to be very broad and included a number of minor manifestations causing neither activity restriction nor medical attendance; the lowered reporting of illness on repeat diaries may have resulted from an increasingly restricted definition of illness and from consolidation of periods of related illness.

Respondent selection. In the California Health Survey almost one-third of the adults were not at home at the time of interview, and

information for them was supplied by related adult proxy respondents. In a subsample of households supervisors reinterviewed directly adults having proxy respondents at original interview, using the same morbidity questions and time references as on the original interview. Reinterviews were conducted also with adults who had responded for themselves originally and with respondents for children in order to examine the stability of original interview responses.

In contrasting morbidity rates at reinterview with those at original interview, the net differences between rates were close to zero for adults who had responded for themselves originally, slightly positive for respondents for children, and substantial for adults having original interview proxy respondents. The relative amount of gross error exhibited a corresponding variation with respondent type.

For 78 percent of all adults having original interview proxy respondents a spouse acted as proxy respondent. For the remaining 22 percent for whom a relative other than spouse acted as proxy respondent, differences between morbidity reported at original interview and reinterview were striking. This relatively small group was primarily responsible for the large net differences observed for all adults having proxy respondents.

Uses of Record Data

In order to evaluate the uses of morbidity data that were kept in records, morbidity information pertaining to San Jose residents was collected from hospital and physician records and from several agencies which routinely kept such information. The cost of obtaining these data was not low. Comparison of survey-reported hospitalization with reports for the same person from hospital records revealed reasonably satisfactory levels of agreement. Data from physician records and other sources suffered from a number of deficiencies as criteria against which to validate survey-reported morbidity. Data from record sources did prove useful, however, in evaluating alternative household survey methods.

PUBLICATION ANNOUNCEMENTS

Address inquiries to publisher or sponsoring agency.

Food Hints for Mature People. More years to life—more life to years. Public Affairs Pamphlet No. 336. By Charles Glen King with George Britt. November 1962; 28 pages; 25 cents. Public Affairs Pamphlets, 22 East 38th St., New York 16, N.Y.

Glossary of Terms Frequently Used in Physics of Oceanography. 1962; 24 pages. Public Relations Division, American Institute of Physics, 335 East 45th St., New York 17, N.Y.

The Population Council, Annual Report, 1961. 1962; 60 pages. Population Council, Administrative Office, 230 Park Ave., New York 17, N.Y.

The Preclinical Teaching of Psychiatry. Report No. 54. By the Committee on Medical Education. 1962; 62 pages; \$1. Publications Office, Group for the Advancement of Psychiatry, 104 East 25th St., New York 10, N.Y.

The Preparation and the Role of Nurses in School Health Programs. Guidelines for the use of administrators, educators, and students. Code No. 15-1033. Prepared by Helen Goodale Florentine, R.N. 1962; 29 pages; \$1. National League for Nursing, Department of Baccalaureate and Higher Degree Programs, 10 Columbus Circle, New York 19, N.Y.

Source Book of Health Insurance Data, 1962. 88 pages. Health Insurance Institute, 488 Madison Ave., New York 22, N.Y.

Work Simplification in Child Care. Teaching materials for the rehabilitation of physically handicapped homemakers. 1962; 28 pages; \$1. School of Home Economics, University of Connecticut, Storrs.

Research. Including 40th annual report on sponsored research. 1962; 94 pages. Office of Research Administration, University of Michigan, Ann Arbor.

An Appraisal of Air Pollution in Colorado. A report on a cooperative survey by the Colorado State Department of Public Health and the U.S. Department of Health, Education, and Welfare, Public Health Service, November 1961—June 1962. By Joseph Palomba, Jr., and Richard F. Wromble. 1962; 27 pages. Colorado State Department of Health, Denver.

Mental Health in the Community Public Health Program. By Dwight W. Rieman. 1962; 44 pages; 35 cents. University of Texas Printing Division, Austin 12.

A Sterile Disposable Nurser System. An evaluative study. By David Littauer, M.D., Albert F. Wessen, Ph.D., and Jay Goldman, D.Sc. 1962; 64 pages. Medical Care Research Center of Washington University and the Jewish Hospital of St. Louis. Washington University Press, St. Louis, Mo.

Program Planning for Alcoholism in a Metropolitan Community. Proceedings of a conference. 1962; 32 pages. Committee on Alcoholism, Health Council, United Community Fund of San Francisco, San Francisco, Calif.

Typhoid Fever Cases and Carriers. An analysis of records of the California State Department of Public Health from 1910 through 1959. By M. Dorthy Beck, M.A., Arthur C. Hollister, Jr., M.D., M.P.H., with technical assistance from Jean Claire Bowman, C.P.H., and Alcor S. Browne, Ph.D. 1962; 145 pages. Available to appropriate professional persons or institutions on request. Bureau of Health Education, California State Department of Public Health, 2151 Berkeley Way, Berkeley 4.

Tuberculosis Outpatient Survey. A knowledge, attitude, opinion, and population survey among 1,292 tuberculosis outpatients at the Los Angeles Veterans Administration Chest Clinic. By Elva Jane Waters, R.N., B.S., Duane O. Crummett, Ph.D.,

Therese K. Cheyovich, R.N., A.M., and Robert E. Fields, M.A. September 1962; 60 pages. Tuberculosis and Health Association of Los Angeles County, 1670 Beverly Boulevard, Los Angeles 26, Calif.

Prenatal Care Attitudes and Practices. A study of women living in West Philadelphia. Special Report Series No. 15. By Mary W. Herman. July 1962; 43 pages; \$1. Research Department, Health and Welfare Council, Inc., 1617 Pennsylvania Boulevard, Philadelphia 3, Pa.

Medical Virology in the USSR. A review of the literature. I.C.R.S. Medical Reports. Monographs in Soviet Medical Sciences No. 1. By Julian Hoptman. 1962; 58 pages. Fordham University Press, New York, N.Y.

Immunochemistry and related fields in the U.S.S.R. A brief and critical review of the literature. I.C.R.S. Medical Reports. Monographs in Soviet Medical Sciences No. 2. By Julian Hoptman and Chester W. DeLong. 1962; 25 pages. Fordham University Press, New York, N.Y.

Passenger Car Design and Highway Safety. Proceedings of a conference on research. 1962; 200 pages; \$2.75. Association for the Aid of Crippled Children and Consumers Union of U.S., Inc. Consumers Union, Mt. Vernon, N.Y.

Follow-up Study of Former Blythedale Patients. A study of the medical, psychological, and social adjustment of former patients of a children's orthopedic hospital and rehabilitation center. By Gerhart Saenger, Ph.D. 1962; 114 pages. Blythedale Orthopedic Hospital and Rehabilitation Center, Valhalla, N.Y.

Medical Care Administration: Content, positions, and training in the United States. By Milton I. Roemer, M.D. January 1963; 164 pages. University of California School of Public Health, Los Angeles 24.

Proceedings of the Los Angeles World Health Conference. Edited

by Lenor S. Goerke, M.D., M.S.P.H., Rosabelle Price Walkley, and Daniel M. Wilner, Ph.D. 1962; 167 pages. University of California School of Public Health, Los Angeles 24.

Leukemia: Key to the Cancer Puzzle? Public Affairs Pamphlet No. 340. By Pat McGrady. February 1963; 20 pages; 25 cents. Public Affairs Pamphlets, 22 East 38th St., New York 16, N.Y.

Services for Children With Orthopedic Handicaps. A guide for public health personnel. Prepared by the Committee on Child Health of the American Public Health Association. 1962; 128 pages; \$2.50. American Public Health Association, Inc., 1790 Broadway, New York 19, N.Y.

Health Officials' Guide to Air Pollution Control. Prepared by the Subcommittee on Health Aspects of Air Pollution and authorized for publication by the Committee on Evaluation and Standards of the American Public Health Association. 1962; 52 pages; 65 cents. American Public Health Association, Inc., 1790 Broadway, New York 19, N.Y.

Manual of Water Fluoridation Practice. By Franz J. Maier. 1963; 234 pages; \$8.50. McGraw-Hill Book Co., 330 West 42d St., New York 36, N.Y.

Family Medical Care. A report on the Family Health Maintenance Demonstration. By George A. Silver, M.D. 1963; 359 pages; \$9.75. Harvard University Press, Cambridge, Mass.

Preventive Medicine and Public Health. Third edition. By Wilson G. Smillie, A.B., M.D., D.P.H., Sc.D., and Edwin D. Kilbourne, B.A., M.D. 1963; 602 pages; \$9.75. MacMillan Co., 60 Fifth Ave., New York 11, N.Y.

How to Succeed With Volunteers. By David M. Church. 1962; 32 pages; \$1.25. National Public Relations Council of Health and Welfare Services, Inc., 257 Park Ave. South, New York 10, N.Y.

A Guide for Health and Safety in the Church Nursery. 1962; 8 pages. Michigan Department of Health, Maternal and Child Health Division, Lansing 4, Mich.

Proceedings. Twelfth Annual Group Health Institute of the Group Health Association of America. 1962; 180 pages; \$3. Group Health Association of America, Inc., 704 17th St. NW., Washington 6, D.C.

Nonconventional Technical Information Systems in Current Use. No. 3. NSF-62-34. October 1962; 209 pages. National Science Foundation, 1951 Constitution Ave. NW., Washington, D.C.

World Health Organization

WHO publications may be obtained from the Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N.Y.

The Scope of Epidemiology in Psychiatry. Public Health Papers No. 16. By Tsung-Yu Lin and C. C. Standley. 1962; 76 pages; \$1; Geneva.

Joint FAO/WHO Expert Committee on Nutrition. Sixth report. WHO Technical Report Series No. 245. 1962; 65 pages; \$1; Geneva.

Occupational Health Problems in Agriculture. Fourth report of the Joint ILO/WHO Committee on Occupational Health. WHO Technical Report Series No. 246. 1962; 61 pages; 60 cents; Geneva.

Expert Committee on Trypanosomiasis. First report. WHO Technical Report Series No. 247. 1962; 57 pages; 60 cents; Geneva.

Radiation Hazards in Perspective. Third report of the Expert Committee on Radiation. WHO Technical Report Series No. 248. 1962; 37 pages; 60 cents; Geneva.

Official Records of the World Health Organization, No. 19. Fifteenth World Health Assembly, Geneva, 8-25 May 1962, Part II. Plenary meetings, verbatim records; Committees, minutes and reports. November 1962; 416 pages; \$3.25; Geneva.

The Biological Disposition of Morphine and Its Surrogates. By E. Leong Way and T. K. Adler. 1962; 117 pages; \$1.25; Geneva.

Paying for Health Services. A study of the costs and sources of finance in six countries. Public Health Papers No. 17. By Brian Abel-Smith. 1963; 86 pages; \$1; Geneva.

Basic Documents. Including amendments approved for the Fifteenth World Health Assembly, May 1962. Thirteenth edition. December 1962; 194 pages; \$1.25; Geneva.

Distribution of and Trade in Pharmaceutical Preparations. A survey of existing legislation. 1962; 88 pages; \$1; Geneva.

SEC Technical Reports

A limited number of the following reports are available from the Robert A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio. Order by number.

Air Over Cities. Symposium. A62-5. 1962; 290 pages.

A Pilot Study of Air Pollution in Birmingham, Alabama. A62-22. By Seymour Hochheiser, Sanford W. Horstman, and Guy M. Tate, Jr. May 1962; 54 pages.

Reference List of Publications. Section 1. Air pollution. A63-1. 1963.

Reference List of Publications. Section 3. Water supply and pollution control. W63-1. 1963.

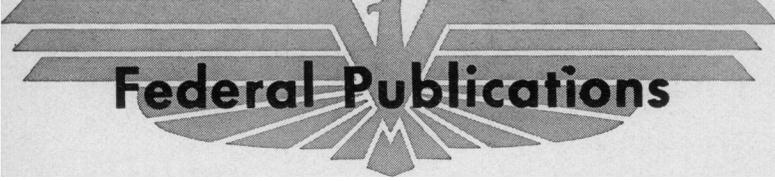
Reference List of Publications. Section 4. Radiological health research. R63-1. 1963.

Process and Waste Characteristics at Selected Uranium Mills. W62-17. 1962; 94 pages.

Preliminary Appraisal of Advanced Waste Treatment Processes. W62-24. Advanced Waste Treatment Research-2. By J. Carrell Morris and Walter J. Weber, Jr. September 1962; 36 pages.

Problems in Ground Water Pollution. W62-25. By Graham Walton. 1962; 6 pages.

Management of Dade County's Air Resources. By Dean S. Mathews and Jean J. Schueneman. October 1962; 39 pages.



Federal Publications

Nursing at the Clinical Center. *PHS Publication No. 468; revised 1963; 8 pages.*

Explains organization and special research character of the Clinical Center of the National Institutes of Health at Bethesda, Md., and opportunities, advantages, and working conditions for nurses in this research hospital. Information on housing conditions and educational, recreational and cultural opportunities in the vicinity is included.

A supplement, PHS Publication No. 468-A, is inserted which provides information about qualifications, salary scale, workweek, vacations, travel, insurance, promotion, and retirement for Clinical Center nurses who are in the commissioned corps and for those appointed under civil service.

General Hospital Planning and Design: Selected references. *PHS Publication No. 930-G-6; January 1963; 14 pages; 20 cents.* Lists general basic references on planning, administration, design, and construction of general hospitals. Includes references on related services and a list of additional information sources.

Conference on the Biology of Cutaneous Cancer. *National Cancer Institute Monograph No. 10. February 1963; 660 pages; \$4.50*

The First International Conference on the Biology of Cutaneous Cancer brought together dermatologists and experimentalists from many parts of the world to discuss variations in the patterns of cutaneous cancer and to plan joint undertakings in geographic pathology and dermatologic research.

The published proceedings give the latest information on clinical and pathological manifestations of cutaneous cancer in man and research accomplishments from animal experimentation.

The Naismith Dental Plan: An experiment in dental prepayment. *PHS Publication No. 970; by Quentin M. Smith, George E. Mitchell, and Gertrude A. Lucas; 1962; 31 pages.*

Up-to-date information about a dental prepayment plan which permitted free enrollment and withdrawal on an individual or family basis is given. Detailed data on costs, utilization, age clusters, family size, and dental need are included.

This booklet should be of special value and assistance to welfare fund administrators, dental associations, consumer groups, group dental practices, or others interested in organizing or administering a prepaid dental care program.

Medical Care Financing and Utilization. Source book of data through 1961. *PHS Publication No. 947 (Health Economics Series No. 1); 260 pages; \$1.50.*

Material on public and private expenditures for medical care heretofore available only in separate publications has been collated into one volume. In addition to data on medical care expenditures, information relating to the consumer price index for medical care, health insurance premiums, benefits, and enrollments, and utilization rates has been included. New material includes regional data on hospital expenses and personnel complement. Utilization data from the National Health Survey have been consolidated in tables that incorporate important variables reflected in expenditures for medical care.

Multiple Sclerosis. Hope through research. *PHS Publication No. 621 (Health Information Series No. 92); revised May 1962; Pamphlet; 5 cents, \$3.25 per 100.* Incorporates newer research findings in description of the disease. Discusses theories on causes and present supportive treatment.

Symposium on Organ Culture: Studies of development, function, and disease. *National Cancer Institute Monograph No. 11; 1963; 252 pages; \$2.25.*

Papers and discussions of the symposium held May 29-31, 1962, in Washington, D.C., are presented. The material is divided into three groups and each group concludes with a summary, correlation, and speculation paper by an expert in the field.

Hill-Burton Program: Progress report. *PHS Publication No. 930-F-3; 1962 edition; 74 pages; 45 cents.* Summarizes projects approved under the Hospital and Medical Facilities (Hill-Burton) Program from July 1, 1947, through the current fiscal year. Annual report includes highlights of the program, annual Hill-Burton appropriations, summary data on projects, facilities provided, costs, obligated funds, and status of construction. Appendix tables present detailed State data.

Darkfield Microscopy for the Detection and Identification of *Treponema pallidum*. *PHS Publication No. 990; 1962; 13 pages; 15 cents.*

The darkfield microscopy method of diagnosing syphilis by demonstration of *Treponema pallidum* in suspected and accessible lesions or regional lymph nodes is explained and described. Collection and submission of specimens, elementary principles of darkfield microscopy, adjustment of the microscope, examination of the specimen, including frequent sources of error, and interpretation of results are discussed.

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Unless otherwise indicated, publications for which prices are quoted are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. Orders should be accompanied by cash, check, or money order and should fully identify the publication. Public Health Service publications which do not carry price quotations, as well as single sample copies of those for which prices are shown, can be obtained without charge from the Public Inquiries Branch, Public Health Service, Washington 25, D.C.

The Public Health Service does not supply publications other than its own.